CLAIMS:

1. A method of treating a cathode of an OLED device having a substrate and which has a spaced anode and organic layers between the anode and cathode, comprising:

a) evacuating a chamber so that it has a pressure no greater than 10^{-6} Torr;

b) heating the OLED substrate in the chamber to a temperature less than 100°C; and

c) delivering gas, including ozone, to the evacuated chamber which includes the heated OLED substrate at a sufficient rate so that the pressure is less than 1 atmosphere, so that the life of the OLED substrate is increased and the operating voltage is decreased.

2. A method of forming an OLED device, comprising:

a) providing an anode over the substrate;

b) providing a series of organic layers over the substrate; and

c) providing a cathode having at least two sublayers by forming a first cathode sublayer on the organic layers and treating the first cathode sublayer in accordance with the method according to claim 1, and forming a second cathode sublayer on the first cathode sublayer.

3. The method according to claim 1 wherein the ozone gas concentration is between the range of 10-20% by volume of the incoming gas and the substrate temperature is below the glass transition temperature of at least one of the deposited organic materials on the OLED device.

4. The method according to claim 2 wherein the ozone gas concentration is between the range of 10-20% by volume of the incoming gas and the substrate temperature is below the glass transition temperature of at least one of the deposited organic materials on the OLED device.

5. A method of forming an OLED device, comprising:

a) providing a substrate and an anode over the substrate;

b) providing a series of organic layers over the substrate;

c) providing a cathode over the substrate;

d) performing the method according to claim 1; and

e) forming by an atomic layer deposition process an encapsulation layer using alternating gases, at least one of which has ozone.